

IN THE DRAWINGS:

In Figure 1 “SW14”, “SW15”, and “SW16” have been added and one occurrence of “PPP12” has been corrected to “PPP11”. Also, submitted concurrently herewith is a Letter to the Office Draftsperson that includes the corrected drawing replacement sheet for Figure 1 for these corrections. Entry of the amendments to the drawings is respectfully requested.

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Official Action dated April 15, 2005 (U.S. Patent Office Paper No. 200050412). In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

Claims 1 through 7 are under consideration in this application. Claims 1 and 7 are being amended to correct formal errors and to more particularly point out and distinctly claim the subject invention. Entry of the amendments to Claims 1 and 7 is respectfully requested.

Additional Amendments

The Specification has been amended to correct formal errors and to better disclose and describe the features of the present invention. Entry of the amendments to the Specification is respectfully requested.

Also, Figure 1 of the drawings has been amended to correct formal errors and to better disclose and describe the features of the present invention. In Figure 1 "SW14", "SW15", and "SW16" have been added and one occurrence of "PPP12" has been corrected to "PPP11". Entry of the amendments to the drawings is respectfully requested.

Prior Art Rejections

Claims 1 through 7 were rejected under 35 U.S.C. § 102(b) over U.S. Patent No. 5,959,988 to Bjorkman et al., hereinafter the Bjorkman '988 Patent. This rejection is respectfully traversed.

Claim 8 was rejected under 35 U.S.C. § 103(a) over the Bjorkman '988 Patent in view of U.S. Pat. No. 5,812,639 to Bartholomew et al., hereinafter the Bartholomew '639 Patent. This rejection is respectfully traversed.

The above rejections of Claims 1 through 8 will be considered collectively.

As described by referring to Figs. 2 and 3 of the above-identified application, the present invention intends to provide a small size for a packet switching apparatus (access node) that is adaptive to various communication lines by externally attaching at least one

additional module (circuit board), such as AM11, to a basic type packet switching apparatus after removing some of line interface boards in an apparatus casing, if necessary.

According to claim 1, a packet switching apparatus accommodates a group of first communication lines of different access methods for performing communication with subscriber terminals and a second communication line for connection to the Internet, and includes:

- (A) a basic module disposed in the apparatus casing,
 - (B) an additional module disposed on the outside of the apparatus casing, and
- the basic module comprises:

(C1) a plurality of packet processors each for performing a predetermined protocol process on communication packets;

(C2) a switch for switching packets among the packet processors;

(C3) at least one detachable first line interface connected between one of the packet processors and a communication line having a specific access method in the first communication lines;

(C4) a second line interface connected between one of the packet processors and the second communication line; and

(C5) a control processor operatively connected to control the basic module and the additional module.

Further, another feature of the packet switching apparatus recited in Claim 1 resides in that:

(D1) the additional module is operatively connected to one of the packet processors instead of a first line interface so as to accommodate at least one communication line having an access method different from the specific access method in the first communication lines and performs a process peculiar to the access method on a transmission and received signal.

Also, similarly, a feature of a packet switching apparatus as recited in Claim 7 includes:

(D2) an additional module operatively connected to one of the packet processors instead of a standard line interface for the second communication line and has an expanded function including a packet processing function peculiar to communication service on the second communication line.

As to the rejection of Claims 1 through 7 under 35 U.S.C. 102(b) over the Bjorkman '988 Patent, it is respectfully submitted that the Bjorkman '988 Patent fails to teach or

disclose a packet switching apparatus of the present invention, such as recited in Claims 1 and 7, for the following reasons.

As described in the related art section of the Bjorkman '988 Patent, the Bjorkman '988 Patent addresses a problem of a circuit switched network in regard to Internet type communications as being wasteful of the limited communication resources of the telecommunication network (particularly, the resource of trunk connection links), because each telecommunications connection between a user and a service provider requires a separate physical communications link when the connection was established by a circuit switching type local exchange.

In order to solve the above problem, the Bjorkman '988 Patent proposes a type of local exchange shown in Figs. 3 and 6 therein that can connect each user to an edge router for the Internet service provider without use of the trunk connection links.

In this regard, as shown in Fig. 3 of the Bjorkman '988 Patent, the Bjorkman '988 Patent provides a plurality of first regional processors 58 and a plurality of second regional processors 58' between a group switch/time (GS/TS) switch 42 and an Ethernet link 64 connected to an edge router for the Internet service provider. As described by referring to Fig. 6 of the Bjorkman '988 Patent, the first regional processors 58 are used to route communication data from ISDN/POTS lines to the Ethernet link 64, while the second regional processors 58' are used to route communication data from the Ethernet link 64 to ISDN/POTS lines or trunk connection lines (E1/T1) via the GS/TS switch 42.

The Bjorkman '988 Patent further provides between the switch 42 and ADSL lines a network terminal (NT) 74. The network terminal (NT) 74 functions to reroute voice components of a call on the ADSL over plain old telephone service (POTS) connection lines 44 to the GS/TS switch 42 and reroute data components of that call on the ADSL over the Ethernet link 64.

The Examiner in the Office Action correlates the group switch/time switch (GS/TS) 42 with the switch (C2) above, the processors 58 and 58' with the packet processors (C1) above, and the network terminal (NT) 74 with the additional module (B) above (U.S. Patent Office Paper No. 200050412, page 2). The position of the Examiner in this regard is respectfully traversed. It is respectfully submitted that the object of disclosure of the Bjorkman '988 Patent is quite different from that of the packet switching apparatus of the present invention, and the Bjorkman '988 Patent does not disclose or describe a relation among a basic module, an additional module and an apparatus casing.

In the Bjorkman '988 Patent, because the GS/TS switch 42 accommodates "first communication lines" (44,48) of different access method (ISDN/POTS) for performing communication with subscriber terminals (46,50) and "a second communication line" (52) for connection to the Internet (through E1/T1), the GS/TS switch 42 of the Bjorkman '988 Patent may be considered as a basic module including therein a plurality of interfaces to be connected to the first and second communication lines and a switch for circuitry switching communication signals among the interfaces. If so, the packet processors (CI) above of the present invention should be installed in the GS/TS switch 42. However, the processors 58 and 58' in the Bjorkman '988 Patent are located outside the GS/TS switch 42. Therefore, it is respectfully submitted that the processors 58 and 58' of the Bjorkman '988 Patent do not correspond to the packet processors (CI) above of a packet switching apparatus of the present invention, such as recited in Claims 1 and 7.

Moreover, if that the GS/TS switch 42 of the Bjorkman '988 Patent corresponds to a basic module (AI) above of a packet switching apparatus of the present invention, the Bjorkman '988 Patent discloses such a basic module that includes not only interface boards for ISDN lines, but also interface boards for analog (plain old telephone service; POTS) lines internally. Therefore, it is further respectfully submitted that the Bjorkman '988 Patent's basic module has a similar problem to that described with reference to Figure 12 in the above-identified application, which problem is addressed by a packet switching apparatus of the present invention.

An advantage of a packet switching apparatus of the present invention, such as recited in Claims 1 and 7, is to promote reducing the casing of the packet switching apparatus as a basic module in size by externally connecting an additional module prepared according to a requested access method or a service type to the basic module.

However, in contrast, the Bjorkman '988 Patent does not discuss the size of the casing, and all of NT 74, RP 58 and 58' and a modem pool 76 shown in Figs. 6 in the Bjorkman '988 Patent should be considered as additional elements installed within the casing of local exchange 40.

In view of the foregoing, it is respectfully submitted that the Bjorkman '988 Patent fails to disclose or teach a packet switching apparatus of the present invention, such as recited in Claims 1 and 7. Therefore it is respectfully submitted that the Bjorkman '988 Patent does not anticipate Claims 1 and 7. Claims 2 through 6, which depend from Claim 1, are at least

allowable for the same reasons that Claim 1 is allowable, and are therefore also not anticipated by the Bjorkman '988 Patent.

As to the rejection of Claim 8 over the Bjorkman '988 Patent in view of the Bartholomew '639 Patent, it is respectfully submitted that the Bartholomew '639 Patent was only cited as disclosing an "encryption and decryption means handled by a processor 550" (U.S. Patent Office Paper No. 200050412, page 3). Therefore, in view of the above discussion, Claim 8, which depends from Claim 7, is not obvious over the Bjorkman '988 Patent in view of the Bartholomew '639 Patent.

Withdrawal of the rejections of Claims 1 through 8 respectively under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) is respectfully requested.

Reconsideration and allowance of Claims 1 through 8 are respectfully requested.

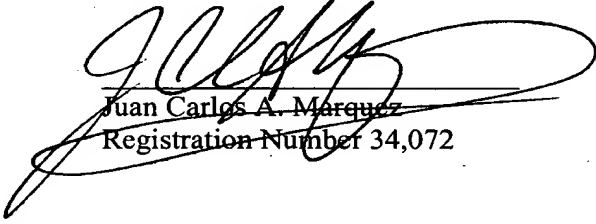
Conclusion

In view of all the above, Applicant's respectfully submit that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and telephone number indicated below:

Respectfully submitted,

Stanley P. Fisher
Registration Number 24,344



Juan Carlos A. Marquez
Registration Number 34,072

REED SMITH LLP
3110 Fairview Park Drive, Suite 1400
Falls Church, Virginia 22042
(703) 641-4200

August 11, 2005

SPF/JCM/JB